

# What Factors Impact the Disordered Eating of Nutrition Students: From a Socio-Cultural Perspective

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## ABSTRACT

The mainstream societal views on food and body influences individuals to modify their eating behaviors for social acceptance. The nutrition students, studying in a field that is entirely based on food, body, and health, seem to be especially vulnerable to such social pressure due to the nature of their area of pursuit. This study summarized three socio-cultural factors and the relevant theories from past studies regarding disordered eating of this student group: healthy food preoccupation, weight-related stigma, thin-ideal internalization. The results found that the majority of studies were quantitative and cross-sectional. Considering how socio-cultural factors can be better understood with verbal communication, and that disordered eating is a long-term behavior, future work could employ more qualitative methods and carry out longitudinal studies. This study may provide insights for future research in looking at disordered eating through the socio-cultural lens, or employing the socio-cultural lens to investigate disordered behaviors in general.

**Keywords:** *disordered eating, nutrition students, nutrition education, socio-cultural lens.*

## 1. INTRODUCTION

Disordered eating behaviors were recognized to be prevalent amongst university students [1]. In nutrition students, this phenomenon was shown to be particularly evident [2]. Nutritional science is fundamentally based on the weight-centric paradigm of health [3]. Thus, with the social values advocating “thin as healthy”, slim seems to be the ideal body shape for nutrition students [4]. Such social pressure is pervasive in this particular educational environment. Nutrition students have feelings of guilt for not following the healthy eating guidelines they studied [5], and experience anxiety for not being in the body shape they are expected to adhere to [6]. These students link their eating status and body shape to future professional success; hence, they may pursue thinness through disordered behaviors. This strong social desirability is also what distinguishes them from other students [7], making them particularly susceptible to disordered eating. As this behavior is provoked by strong psychological distress [8], and may potentially influence these students’ physiological functioning -- for instance nutrition deficiency [9] -- it is worth exploring the reasons behind such abnormal behavior.

Despite the connection between societal belief, education environment, and food-body relationship to eating illustrated above, not much research looked into

the socio-cultural factors that impact disordered eating within the nutrition field of profession. Specifically, an insufficiency of research exists on the conflict of nutrition students between their social recognition, bodies, and food. Therefore, this review will examine past literatures that give evidence about this conflict, the force leading to such prevalence of disordered eating in this student group.

In this paper, three socio-cultural factors of disordered eating in nutrition students were summarized: healthy food preoccupation, weight-related stigma, and thin-ideal internalization. For each factor, the related theory would be first delineated, regarding its connection with disordered eating. Its influence on nutrition students would be then justified, followed by reasons of this student group being particularly susceptible.

## 2. FACTORS

### 2.1. Healthy Food Preoccupation

As nutrition students study healthy food and are exposed to the idea of healthy eating on a daily basis, it was suggested that they are more susceptible to disordered eating [4]. Various studies in the past have verified the significance of healthy food preoccupation, or in other words an obsession with healthy eating, to the

emergence of disordered eating behaviors. This phenomenon was first described by physician Bratman as “orthorexia Nervosa” [10], where people’s self-perceived “healthy dieting” become extreme to an extent of malnutrition, signifying a disordered behavior. Those with orthorexic behaviors have intense obsessions with eating traditional healthy foods and are preoccupied with the idea of healthy consumption [11]. Individuals may intend to pursue a healthier lifestyle for positive reasons, yet develop compelling and dysfunctional beliefs on food which ultimately impairs health [12]. A Brazilian study substantiates this description. Students with a high level of healthy food preoccupation are likely to exhibit pathological refusal to high-calorie foods, as well as possess high EAT-26 measurement scores, a validated dieting subscale [13]. On that account, the pathology associated with healthy food preoccupation is addressed in the context of disordered eating, despite its good starting point.

The above relationship between healthy food preoccupation and disordered eating is especially apparent in nutrition students. Grammatikopoulou and colleagues [5] noted that more than half of the nutrition students they investigated reflected orthorexic behaviors. Many were found to suffer under the stress of healthy dieting, and some consume significantly more vegetables than non-disordered participants. The presence of stress must be emphasized in this situation, as the good intention demonstrated its ability to actually disrupt one’s original, healthy eating patterns. The study of Penaforte and others [14] warrants this result, where 87.2% of their nutrition student participants are highly bothered by healthy eating obsessions or orthorexia Nervosa. Over and above that, a high percentage of these participants showed body dissatisfaction, a predictor of further disordered eating. On top of that, 63.8% of students in Turkish dietetic majors, studying under the department of nutrition and dietetics, are involved in orthorexic behaviors [15]. Consequently, the proposed prevalence of pathological obsession with eating healthy food is consolidated in nutrition students.

Several explanations were offered for why nutrition students are particularly worthy of mention. Because of the nature of nutritional science, nutrition students are consistently exposed to stimuli about health information. They abide by the healthy eating guideline pervasive in their educational environment, where fixed instructions are given regarding what is healthy and what is not [5]. Consolidated by the study of Crites & Aikman [16], it was revealed that level of nutrition knowledge is strongly correlated to food attitudes, which eventually influences food selection. Nutrition students, matching this description, thus are prone to this influence. Another recent study in Japan endorses this conclusion, where nutrition student participants, with more nutrition knowledge regarding health, are more sensitive to the negative aspects of their eating lifestyle [17]. Thereby it

can be interpreted that the nature of studying a nutrition course provokes students to be particularly preoccupied with healthy food and eating. In addition, such nature seems to distort the students’ relationship with food, causing disordered eating that is persistent. Nutrition students shared in interviews that their relationship with food has been altered due to the nutrition education they went through. One stated that he became “frustrated” and “guilty” for not following the healthy eating guideline; he also claimed to experience conflicts between the professional side of him and him without the nutrition student identity [8]. This strongly highlights how nutrition education leads to compulsive healthy eating, and how psychological distress is evoked when the compulsion is not fulfilled. Hence, from the quantitative and qualitative results, a clear connection is drawn between healthy food preoccupation in nutrition students and their disordered eating.

## ***2.2. Weight-related Stigma***

Past studies have revealed the pervasive stigmatizing attitude towards the obese population, as well as the idea of obesity [18]. This societal prevalence makes up the broader category of weight-related stigma, which also includes weight discrimination and anticipated weight stigma. These aspects mentioned above were all found to be in correlation with disordered eating behaviors. Participants of past studies showed greater dietary restraint, shape concern, and uncontrolled eating as a result of experiencing weight discrimination [19] [20]. Many participants perceived themselves to be heavier than their actual figure, whilst exhibiting stress from anticipated weight stigma, leading to a vicious cycle of further weight concerns [19]. This is consolidated by studies that correlate self-perception of fat to negative self-schema, which prompts dietary restraint and purging, where both are typical behaviors of disordered eating [21]. The strong weight bias in the environment illustrated above ultimately gives rise to psychological distress, the fundamental force leading to disordered eating [20].

Studies on nutrition students in the university of multiple regions gave congruent results in the relationship between weight-related stigma and disordered eating. A past study in Saudi Arabia discovered that nutrition students tend to show a greater likelihood of nutrition deficiency resulting from dietary restraint [9]. Different from dieting, dietary restraint involves constant concerns about the food intake, with the intention to avoid weight gain [22]. It must be emphasized that the average BMI of nutrition students in this study is within the normal range, implying that their diet control is potentially harmful on a medical level. Data from this study also highlights that nutrition students’ avoidance of fat intake exceeds avoidance of other macronutrients, demonstrating a fear of obesity,

thus showing the role of weight-related stigma in their abnormal eating [9]. Another study in South Africa reinforces this result. Dietary restraint was found to be significantly greater in first-year dietetic students, who study under the faculty of human nutrition. Again, because the mean BMI of these students is within the normal range, disordered behavior is reflected. Additionally, these students had a higher disinhibition level, which is defined as a loss of control over eating, typically due to stressors including chronic rigid dietary restraint [22]. This manifests how nutrition students, under the weight-related stigma, may enter a vicious cycle of disordered eating. The shame of being obese pushes these students to have rigid dietary control, leading to inadequate food intake, which builds stress and increases the level of disinhibition. This then causes periods where students lose self-control, overeat for compensation, and fall into further weight shame that drives dietary restraint to a greater extent.

Despite that students of all majors can be influenced by weight-related stigma, nutrition students seem to be particularly susceptible. Various research have examined the stigmatizing attitudes in the field of nutrition and dietetics through explicit and implicit measures. Reflected by the high level of fatphobia score and negative connotations in use of language, it was found that dietitians, who once were involved in nutrition education, have greater average prejudice towards obesity, so as stronger fear towards becoming obese [23]. With that result present, it is no surprise that the majority of nutrition students, who are exposed to such an environment of nutrition education, also express negative attitudes and biases towards individuals that are overweight [24]. Qualitative results from interviews consolidate this rooted stigma in nutrition education. Students reported feelings of shame and fear of being judged when they completed assignments related to body weight or shape, directly reflecting the negative weight stigma in their education environment. Furthermore, they claimed to be under intense social pressure when they themselves are fat yet are learning about how to guide others in avoiding obesity [3]. On top of that, studies illustrated the body image distortion within nutrition students, where a discrepancy is shown between their self-perceived body image and their actual body status. A past study investigated students with normal BMI and reported that although all students showed body image distortion, nutrition students seem to stand out the most [25]. The incongruity between nutrition students' self-perception and reality substantiates their sensitivity to being overweight. The weight obsession amongst this particular student group, resulting from the weight-related stigma in the education environment, is thus further manifested.

Therefore, the susceptibility of nutrition students to weight-related stigma highlights the prevalence of disordered eating in this particular major.

### **2.3. Thin-ideal Internalization**

In addition to weight-related stigma, thin-ideal internalization is another omnipresent source of pressure that causes disordered eating in nutrition students. It was explained that internalization occurs as individuals internalize the attitudes reinforced by the majority of society; thus, thin-ideal internalization is when the thin-ideal body image is reinforced and perpetuated regardless of health [26]. The increased social acceptance that comes with a thinner body provokes individuals to develop body image anxiety, where individuals are consistently concerned with meeting the societal expectation of body shape, resulting in various eating disturbances [27]. This correlation was confirmed in several earlier studies. Stice & Agras found bulimic symptoms present in adolescent girls with thin-ideal internalization [28], whilst studies in later years discovered thin-ideal internalization to be a predictor of high body dissatisfaction, eventually increasing individuals' dieting behaviors and bulimic symptoms [29]. On top of that, a study demonstrates that the bulimic symptoms could be alleviated when thin-ideal internalization is reduced, fostering the connection between this risk factor and disordered eating [6].

In nutrition students, this connection is particularly evident. A Mexican study found that almost half of participants, with the identity of nutrition students, have an internalized thin aesthetic model. Moreover, this model has led to high body dissatisfaction, a strong risk factor for abnormal eating behaviors [30]. Another Brazilian study backs this up by illustrating the higher level of severe body dissatisfaction and disordered eating risk in nutrition students compared to other students. This result was explained by the social pressure that a slim body shape is essential for these students' particular profession [4]. Moreover, a study in the UK had 90 percent of its nutrition students desiring to be thinner and 60 percent overstating their body figure, yet all possessing a low mean BMI. Prevalent disordered eating was observed amongst these participants, with quite a proportion scoring for Bulimia Nervosa in validated questionnaires [31]. The nutrition students' self-perception of a larger body, as well as their wish to be thinner than the healthy standard, all reflect the effect of internalized thin-ideal. That being so, the impact of such factors on disordered eating is clearly highlighted. Further proof was given by a study in 2017, where the vast majority of the nutrition student participants showed exercise addiction, defined as compensatory exercising with the intention to lose weight [32]. This bulimic symptom demonstrates nutrition students' disordered eating with the thin-ideal as the ultimate objective.

Similar to the other two factors above, thin-ideal internalization targets nutrition students more than others. Interviews with dietetics students under the department of nutrition confirmed the existing thin-ideal in this

profession. A student implied the necessity of being thin in pursuing nutritional science, so as the existence of certain ideal thin body which they must fit in [8]. Another qualitative study verifies this result, where a feeling of alienation exists for students that are not as thin and fit. One student reported that others explicitly counselled her to fit into a fixed body size. They also collectively claimed to fear the lack of credibility accompanied by weight gain as they become professionals in nutritional science [3], congruent with a past study that conveys the consistent social pressure of thinness and obsession with thin body shape in nutrition students [2]. This was explained by the societal expectation built by role models in their field of study that possesses thin bodies. Nutrition students, pervaded professional success, thus giving rise to the obsessive behaviors in maintaining a slim body shape [4]. Great attention is thus called to how nutrition education and the nutrition profession are inherently linked to a thin body ideal, and that students embracing such culture are pressurized to meet this permeating societal expectation. The behavior illustrated above was exemplified as a manifestation of social desirability [7], which was found to raise bias towards a thinner body. A study reports that social desirability may lead to biased self-reports on vegetable intake in females enrolled in a nutrition program [33], in other words, participants showed an attempt to present themselves closer to the standard of healthy and thin to acquire more recognition. In addition, the nutrition students' psychological inflexibility [13] exhibited by the strength of thinness belief was identified to be especially problematic regarding the situation of thin-ideal internalization. Participants of the past study were found to be preoccupied with negative self-cognitions and idealized thinness if they score high on the psychological inflexibility subscale. They allowed the internalized thin-ideal to direct their eating behavior, instead of embracing their actual body shape [34].

On that account, it is clearly demonstrated that thin-ideal internalization is highly influential in the etiology of disordered eating in nutrition students.

### 3. CONCLUSION

In conclusion, this literature review looked at three socio-cultural impacts on the prevalence of disordered eating amongst nutrition students. The results founded that not much studies focused on disordered eating in nutrition students. This study thus addresses the key results from previous literature works and may serve as an intermediate platform for further academic research. There are certain limitations, however, in this paper review. Mainly quantitative cross-sectional studies were included, with few qualitative interview studies. Considering how socio-cultural factors may influence individuals differently, future studies could employ more qualitative methods to enrich the current results.

Longitudinal studies are also encouraged to confirm the results' consistencies on a time span, for example before and after students study nutrition. In addition, this study supports the significance of a socio-cultural perspective in investigating the impacts behind a population-specific pattern. Thus, the socio-cultural lens is worth applying to the exploration of a broader range of disordered behaviors in future research.

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